

REMARKS/ARGUMENTS

Claims 1-11 and 14-24 stand rejected in the outstanding Final Rejection. Claims 1, 9 and 22 have been cancelled without prejudice, claims 2-8, 10, 11, 14, 23 and 24 have been amended and newly written claims 25-30 offered for consideration. Accordingly, claims 2-8, 10, 11, 14-21 and 23-30 are the only claims remaining in this application.

Claims 9-11 and 22-24 stand rejected under 35 USC §112 (second paragraph) as being indefinite. The Examiner's concern is with respect to the "deformable-mirror holder" as described in former independent claim 1. Applicants have rewritten claim 1 as newly written independent claims 25 and 27 which are directed towards a "deformable mirror apparatus" and thus the preamble of claims 2-7, 10 and 11 have been amended to reference the deformable mirror apparatus so as to be consistent with the reference to the deformable mirror in independent claim 25. Thus, the deformable mirror recited in the independent claims and claims dependent thereon is now believed to be clearly definite to those of ordinary skill in the art reading the currently amended claims.

Claims 9-11 are also objected to as referencing the "deformable-mirror holder." This language has been deleted from claims 2-8, 10 and 11, thereby obviating any further objection to those claims.

Claims 22-24 are objected to by the use of a "deformable mirror" in those claims. While claim 22 has been cancelled without prejudice, the reference to a deformable mirror in combination with a deformable mirror holder set forth in claim 17 is believed to be a proper combination claim using the definitions of "deformable-mirror holder" as disclosed in claims 17 and 18. Additionally, Applicants have amended claims 23 and 24 to clearly recite the

deformable mirror in combination with the deformable mirror holder in the respective dependent claims 17 and 18, thereby obviating any further indefiniteness in these claims.

In view of the above amendments, it is submitted that there is no further basis for any rejection or objection to the pending claims under 35 USC §112 (second paragraph) and any further rejection thereunder is respectfully traversed.

Claims 1, 3-6, 9, 14, 16-19 and 22 stand rejected under 35 USC §102 as being anticipated by Merz (U.S. Patent 6,307,688). While Applicants' independent claim 1 has been cancelled without prejudice, newly written independent claim 25 and claim 27 dependent thereon are the basis for dependency of remaining claims 3-6 and independent claim 14 and claims 16-19 dependent thereon. Claims 1, 9 and 22 have all been cancelled.

As will be clear, newly written independent claim 25 positively recites a "deformable mirror apparatus." Applicants' newly written independent claim 25 makes clear that there are three main elements to the deformable mirror apparatus, i.e., (a) a deformable mirror, (b) a mounting body having both an aperture in which the mirror is received and a flexible structure extending across the aperture to the mirror, and (c) a deformation device for controllably deforming the mirror which is limited to "acting on the mirror other than through the flexible structure."

In other words, while in the prior art Merz device, the deformation device acts upon the mount or inner ring and does not act on the mirror itself, in newly written independent claim 25 the "deformation device" controls deformation of the mirror "other than through the flexible structure" of the mounting body. This "direct" deformation of the mirror, which bypasses deformation of the mirror mounting body and its flexible support structure, clearly distinguishes

over the subject matter disclosed in the Merz reference. In fact, Merz specifically discusses that levers and forces are applied to the lens or mirror mounting "ring 2" and not directly to the mirror or lens 1.

Thus, the Merz reference clearly teaches away from the subject matter of independent claims 25 and 26 which require that the deformation device operate "other than through the flexible structure" in claim 25 and "directly to the mirror" in claim 26. In contradistinction thereto, Merz requires that the deformation device in the form of the levers and push rods are all attached to the mounting ring which mounts the mirror and it is movement of the ring which moves the mirror, not any direct mirror actuation.

As a result of the above, there is no basis for rejecting newly written independent claim 25 or claims 3-6, 14 and 16-19 as being anticipated by Merz and any further rejection of these claims or claims dependent thereon is respectfully traversed.

These same claims stand rejected under 35 USC §102 as anticipated by Gaber (U.S. Patent 6,388,823). As with Merz, Gaber teaches a lens or mirror which is arranged in a mount (2) and actuators (3) move the ring shaped mount 2 rather than the mirror or lens directly. Like Merz, Gaber teaches the opposite of the structural interrelationship of elements set out in newly written independent claim 25 and claims dependent thereon. Accordingly, there is no basis for further rejection of claims 2-6, 10, 11, 14-19, 23 and 24 under 35 USC §102 as being anticipated by Gaber and any further rejection thereunder is respectfully traversed.

In section 8 on page 5 of the Official Action, claims 7, 8, 20 and 21 stand rejected under 35 USC §103 as being unpatentable over Merz or Gaber. The above discussion with respect to

Merz and Gaber not disclosing the arrangement recited in Applicants' independent claims 25 and 26, and therefore claims dependent thereon, is herein incorporated by reference.

Claims 7, 8, 20 and 21 recite further limitations on the interrelationship between the mirror, the flexible structures joining the mirror to the body and the deformation device which deforms the mirror "other than through the flexible structure" (as in claim 25) or "directly to the mirror" (as in claim 26). Because both Merz and Gaber teach the direct opposite of Applicants' mirror/deformation device interrelationship, both references would lead one of ordinary skill in the art away from Applicants' claimed combination of elements.

Accordingly, any further rejection of claims 7, 8, 20 and 21 as obvious in view of Merz or Gaber is respectfully traversed.

Claims 10, 11, 23 and 24 stand rejected under 35 USC §103 as being unpatentable over Merz. Inasmuch as these claims depend upon independent claims 25 or 26, the above comments distinguishing the independent claims from the Merz reference are herein incorporated by reference. As noted above, Merz actually would lead one of ordinary skill in the art away from the claimed combination of elements in Applicants' newly written claims 25 and 26.

Accordingly, any further rejection of claims 10, 11, 23 and 24 as being obvious in view of Merz is respectfully traversed.

In section 10 on page 6 of the outstanding Official Action, the Examiner objects to the drawings not illustrating "reference numeral 86" purportedly disclosed on page 8 of the specification. Applicants have reviewed page 8 and can find no reference numeral "86" although there are two instances of reference numeral "86" on the page. It is presumed that the reference to numeral "86" in section 10 of the Final Rejection is a typographical error and the Examiner

meant to refer to "86'." Applicants have amended the specification by deleting the two references to "86'" where they occur, thereby obviating any further objection to the drawings.

Entry of the Amendment Pursuant to Rule 116

Entry of the above amendment pursuant to the provisions of 37 CFR 1.116 is respectfully requested. Applicants have cancelled claim 1 and rewritten the subject matter thereof as newly written independent claims 25 and 26. The rewriting of these claims is believed to clearly obviate the indefiniteness arguments made with respect to claims 9-11 and 22-24 in section 3 of the Final Rejection. In addition, the dependency of all claims based upon independent claims 25 or 26 is believed to clearly distinguish over the Merz and Gaber cited references, as noted above.

Accordingly, in view of these distinctions, there is no remaining basis for rejection of the independent claims or claims dependent thereon over either the Merz or Gaber references, thereby obviating any further rejection under §102 or §103. Because the rejections on the merits have been obviated, entry of the above amendment is believed to place the application in condition for allowance, thereby obviating the need for filing an appeal. In view of the above, entry of the above amendment pursuant to the provisions of Rule 116 is respectfully requested.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that remaining claims 2-8, 10, 11, 14-21 and 23-30 are in condition for allowance and notice to that effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is respectfully requested to contact Applicants' undersigned representative.

GRIFFITH et al.
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NIXON VANDERHYE PC

Fax 703+816+4100


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In view of the fact that this submission is an Amendment after Final, the courtesy of a telephone call from the Examiner to the undersigned indicating the disposition of this Amendment is respectfully requested.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By:



Stanley C. Spooner
Reg. No. 27,393

SCS:kmm
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100